5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU2?
Pima NU29

SMOKING

Pima usually carried tobacco in a special buckskin or foxskin pouch, decorated with sun symbols in bright colors and rattles, sometimes fringed, and closed with a flap folding over the top or occasionally with a drawstring. The simplest Papago pouches were a circular piece of dressed buckskin with a fringe around the entire edge, and tied up with a thong. Others were made of rabbit, or sometimes fox, skin with the fur left on. All present-day Papago pouches are of buckskin, dyed red with the root of *Krameria glandulosa*. They are made of two semi-circular pieces sewed together with fringe around the seam and a flap fastened by a knot or thong serving as a button.[4]

Papago and Pima had no true pipes, a fact mentioned by Lloyd[5] in 1911. Cigarettes for smoking tobacco were made usually from tubular stem sections of pigweed, or *bledo (Amaranthus Palmeri)*. These were from one-fourth to nearly an inch across, and six to eight inches long, cut when the plants were mature, dried and the pith bored out. After coating with a layer of gummy secretion from the mesquite tree, they were ready for use. A Papago informant said the *Amaranthus* stems were being used for smoking when he was a boy, but that reed grass *(Phragmites communis)* stems had been utilized at an earlier time and had fallen into disuse due to scarcity and consequent difficulty in finding them. This reed grass does not occur in southern Arizona (except along the Colorado), but is found along streams in Apache, Navaho and Coconino counties.[6] Russell[7] states that it was formerly common along the Gila. Rolled cigarettes, made by wrapping tobacco in inner corn husks, seem to have been a later development among both peoples. Any special gathering for the good of the tribe or ceremonial occasion demanded

[4] Castetter and Underhill, *Ethnobiology of the Papago Indians*, p. 50.
[5] Lloyd, *Au-au-tam Indian Nights*, p. 89.
[6] J. J. Thornber, Personal correspondence, Feb. 15, 1940.
[7] Russell, *op. cit.*, p. 134.

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

only more shallow. On the rocks were pictographs of the same kind and design as may be seen elsewhere in the district, as, for instance, near Caborca. Turkey vultures have a breeding place on the top; according to my guide, who has seen the young here, these birds make no nests.

Inside of the houses of the Indians in these parts, I often noticed skins of the peccary, called in Mexico *javalin*, the meat of which is much relished by the Papagoes; also skins of the mountain-sheep, deer, and lynx were seen. The Papagoes are exceedingly fond of meat. One day at La Nariz a young steer was killed. Generous parts of the carcass were distributed to those who had helped to butcher it, and everybody in the afternoon, including ourselves, was invited to come and "eat meat." The meat was broiled on coals, each person preparing his portion for himself, and this feasting was kept up until eleven o'clock that night. The participants actually arose earlier than usual, long before sunrise, to broil more meat and continue the banquet. Nothing else was consumed, not even tortillas, and in the afternoon very little of the beast was left.

At the so-called Temporales, where Mexicans from Sonoita and Quitovac practise dry farming, besides the usual forms of Indian corn, a kind of maize that matures in about two months is cultivated. It is called *maiz de los Yumas*, is white in color, and the ears are small. I saw some that had been planted in the beginning of August and which was ripe by the middle of October. The rains rarely fall here before August. Frost usually appears the 1st or 2d of November. This year it came on November

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28
Sand Papago

which the Indians knew how to gather all the year round, 184
though after May that part of the plant which is above 222
ground withers away. They had their season of chia and used to come as far as Quitovaquita and Santo Domingo to gather mezquite beans (called by the Mexicans *pechita*) and eat sahuaro and pitahaya. Near all the tinajas are seen round holes from six to ten inches deep, made into the solid rock, in which these Indians pounded mezquite [252 412] beans. Their pestles are frequently found. The beans of the palo fierro were toasted, ground, and consumed as pinole. After the scanty winter rains the juicy plant of the sand dunes, *œnothera trichocalyx*, was boiled and eaten.

The clothing of these people was made from the skin 184
of mule-deer, antelope, or mountain-sheep. The hair was 281
first removed with a bone taken from the lower foreleg of the animal, and the skin was smeared with the brains. The root of the torote tree, crushed and left in water, furnished necessary material for the tanning process. The [291] man wore shirt and breech cloth, the woman a short skirt. They killed sea lions on the rocks by hitting them on the nose, and from their skins sandals and straps were cut. From the badger's hair they were able to plait [301] ribbons for the hair and make twine to be used for the [331] breech cloth. Women wore sandals, but no hair ribbons. The skirt was kept up by strings of buckskin.

The burden basket was not used, but they made carry- 184 285
ing nets as well as pottery, material for which is abundant 482
on the coast. Baskets were manufactured from torote, willow, and bulrushes. In order to make bows, these 184
Indians travelled as far as the Colorado River to get 411

PLANTS AND ANIMALS USED AS SOURCES OF CLOTHING, ORNAMENT, AND COSMETICS

281 291 Ancient Papago clothing was of mule and Arizona white-tailed deerskin *(Odocoileus hemionus* and *Odocoileus couesi)* and this skin clothing was one of the marks distinguishing Papago from Pima, since the latter wore cotton garments variously colored (18, 27). For the desert area which came to be called Papagueria the clothing varied from the buckskin loincloth to more elaborately made garments and mantles. The first observers found some "nude except for the women's white aprons of rabbit or deer skin" (18, pp. 216-230).

Living informants do not remember skin clothing in the loincloth and apron form, though in their childhood such garments made of cotton were still to be seen. From these and from tradition they describe the simplest skin garments.

Men wore a breechcloth, *atoca*, consisting of a soft strip of buckskin, tied around the waist, with another narrower strip passed between the legs and under the front and back of the belt; in its folds were arranged pockets in which tobacco could be carried. The upper part of the body was naked except in cold weather when a buckskin was thrown shawl-wise over the shoulders and tied with thongs. The rabbitskin *(Lepus* sp.) garments had disappeared, though rabbits were and are still plentiful. By degrees the buckskin shawl developed into a shirt with the coming of sewing, and eventually the shirt became an elaborate tailored [386] garment with a yoke, long sleeves, and fringed seams, the whole being dyed red from the root of *Krameria glandulosa*, and sometimes decorated with white chalk or an appliqué of white buckskin. While the old deerskin costume consisted of only shirt and loincloth, hunters who were rich in hides wore long deerskin leggings with fringed seams reaching to the hips. An informant of ninety reported that in her youth young dandies came to the dances in leggings of

17:Castetter & Underhill N,E-5 (1931-1934) 1935
NU28 Papago NU28

western goshawk skin *(Astur atricapillus striatulatus)* with the feathers on.

Women wore a breechcloth like that of the men and over it an apron of two buckskins pulled over a belt, one in front and one in back. In the memory of informants, however, women wore only cotton aprons in the same way "because we didn't know how to sew." Deerskin skirts were then being sewed by professional leatherworkers, like the shirts, and were similiarly dyed and decorated, and in addition might have a border of deer hoofs around the bottom with a fringe of deer hoofs on short thongs around the waist. The upper part of the body was naked except for a buckskin shawl like that of the men, which, however, never developed into a shirt.

The garments made of cotton were similar in shape to those of buckskin. Men wore a cotton breechcloth and women two cotton aprons. But women sometimes wore a single strip of cotton twisted around the waist and wide enough to reach below the knees. It might be held in place with a thong, a twist of rope, or with one of the colored belts described above.

Although the Papago are known to the Navajo as "sandal people," their sandals were used only for hunting, war, and journeys. Most informants remember no sandal material other than cowhide *(Bos taurus)*, which began to be obtained by trade soon after the first Spaniards reached the country. However in the mountainous country toward the Gulf, the skin over the knee of a mountain sheep *(Ovis mexicanus)* was found strong enough if doubled. In the Baboquivari valley people used for this purpose the bark of the hackberry tree *(Celtis reticulata)* which comes off in smooth slabs.

Leather sandals were made with the sole straight across the toe end, sometimes with a projection in the center, like the Apache flap, to protect the great toe. Under the heel end was laid an extra piece of rawhide with two narrow tabs which came up through slots in the sole to take

the buckskin lacing. Another type of sandal is described as made of two thicknesses of deerskin dyed red and bound together at the edge with white deerskin. The "rich" had buckskin moccasins to the knee.

Pouches were made for carrying tobacco, paints and fetishes, the simplest being a round piece of dressed buckskin fringed all around the edge and tied up with a thong. All those made at present are of dyed buckskin (colored red with dye from the root of *Krameria glandulosa)* made of two semi-circular pieces sewed together, with fringe around the seam and a flap fastened by a knot of thong serving as a button. Others were made of rabbit skin *(Lepus* sp.) or sometimes fox *(Vulpes fulvus)* with the fur left on.

No headdress was ordinarily worn, although warriors had various caps and ornaments. The *siwoṭ* was a single upright plume, stuck in a headband which might be woven or be merely a deerskin thong. The *pitcpoṭ* was a row of feathers around the head like a crown thrust under a buckskin band. A more elaborate bonnet was the *acki wongm* —a buckskin cap with upright feathers sewed closely all over it with an especially high tuft on the top. There is also mention of a cap of peccary skin *(Pecari angulatus)* fitting closely to the head with upright eagle *(Aquila chrysaetos)* or hawk feathers (because they are the best fighters) sewed around its edge and a mask of buckskin hanging over the face and tied around the neck. Warriors might also tie a bunch of eagledown to the hair at the top of the head, or some long feathers to the hair at the back.

Men wishing to keep their hair out of their eyes tied it with a deerskin thong, or for gala occasions with a woven headband of red and white cotton. For war they tied it at the back of the neck with a deerskin thong, then twisted the mass into a short club wound about with deerskin, and this was specifically called the war knot. Women always wore their hair loose except for a thong or a twist of grass tied around the forehead while working. In racing they brought the whole mass of hair up over the forehead and back again,

17:Castetter & Underhill N.E-5 (1931-1934) 1935
NU28 Papago NU28

DRESSED SKINS

After removal from the animal, deerskins *(Odocoileus hemionus* and *O. couesi)* were dressed immediately; or, if this were not feasible, they were staked down in the sun to dry, then buried in a moistened hole dug in the earth until time to be dressed. 28/

For dressing, the skin was first soaked in water over night and wrung to remove as much of the water as possible. It was then hung over the scraping pole for fleshing and dehairing. The scraper used for this purpose was a slightly curved rod of catclaw *(Acacia greggii)* about a foot long, set at each end in a short handle of split cactus rib *(Carnegia gigantea)*. At the time the deer was skinned its brain was removed and mixed with dry grass, then shaped like a pancake. This was baked in hot ashes just long enough to prevent it from decaying and to bring out the grease. To make the hide more pliable for the pulling and stretching process this cake was either rubbed on the dry hide or mixed with water and the hide washed in this liquid. After pulling and stretching the hide for a whole day, as a final step it was staked out with creosote bush stakes *(Covillea glutinosa)* on the clean sand of a wash and beaten with the flexible stems of catclaw, peeled of bark and thorns.

The skins of both species of deer mentioned, of antelope *(Antilocapra americana)* and mountain sheep *(Ovis mexicanus)* were all treated in this way. Wildcat *(Lynx ruffus)*, mountain lion *(Felis oregonensis hippolestes)* and coyote *(Canis lestes)* were scraped without dehairing or softening, and used for quivers.

All buckskin for clothes or pouches was colored a terra cotta red with dye from the roots of *Krameria glandulosa*, [38] which were peeled, cut into inch lengths, finely split and then boiled. It was poured over the hide rather than allowing it to soak since this would cause stiffening, and one quart of the decoction would dye two deerskins. After the dyeing the hide was wrung dry and softened again but without grease.

17:Canetter & Underhill N,E-5 (1931-1934) 1935
NU28 Papago NU28

281 Thongs and loin cloths were cut from buckskin even before there were sewed garments. To mark a straight line [304 413] for the cutting the worker blackened his bowstring with soot, laid it against the skin, then the cutting was done with a flake of flint. Sewing was first done on pouches and 284 quivers, then on simple garments. The needle was an awl of very hard wood which had to be obtained from the Altar valley and was sharpened with a stone and its head hardened on the fire. The thread was a buckskin thong pulled out very thin, twisted tightly and wet in the mouth.

WEAPONS

411 At present bows are made of mulberry *(Morus microphylla)* or, in its absence, of box thorn *(Lycium fremontii)*. A long new mulberry shoot about two inches thick and five feet long was cut in the rainy season; then the bark was removed and the protuberances rubbed down with a stone. The last quarter of the length at both ends was tapered to an inch in diameter by scraping with a stone, the ends being finished with a notch for the string and a bulbous projection beyond it.

The bow was bent by laying it in hot ashes, stones being placed on and around it so as to bend the ends up at a gradual angle. The central part must not be bent at all since this would weaken it. The ends were next tied in position with strong cord of agave fibers (not the bowstring) [531] and the bow set aside to dry thoroughly. It might then be painted with a series of red diagonal crosses down the outside, or it might have wrappings of deer sinew at either side of the hand grip.

The bowstring was a two-ply cord of deer sinew which was soaked, split with the teeth and rolled on the thigh. This hard rough cord was made rather smooth by running it [263] through a small perforation bored in a stick of sahuaro wood *(Carnegia gigantea)*.

The Papagos usually made stone-tipped arrows for war and large game, but wooden-tipped ones for small